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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/341,637	09/03/1999	Petrus Cornelius Jozef Beentjes	APV30918	5374

7590

06/14/2002

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EXAMINER

KILKENNY, TODD J

ART UNIT

PAPER NUMBER

1733

20

DATE MAILED: 06/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/341,637

Applicant(s)

BEENTJES

Examiner

Todd J. Kilkenney

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1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 8, 10, 11, 13, 14 and 16 - 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Okamura et al. (WO 97/32715).

Referring to Figure 1 of Okamura et al., a process and device for manufacturing resin-coated metal plates is disclosed. Okamura et al. teach first forming the set resin film (13) by casting through T-die (18) and passing through cooling rolls (19 and 20) and then taking the film up on take-up device (24) with the laminating roll (25) away from the metal plate (10). That is Okamura et al. teach to not immediately laminate the film to metal plate (10) after forming the film by positioning the laminating roller (25) in an "open position" away from the metal strip. The film is laminated onto the metal plate only after its thickness has become stable (see Abstract). Okamura et al. further disclose a heating device (12) for heating the metal plate (10) upstream the laminating roll (25) so as to heat the plate to a temperature T_1 to $T_1 + 150^\circ\text{C}$, wherein T_1 is a melting and joining temperature of the set resin film (13) (page 9, lines 20 – 22). When the thickness has stabilized, the laminating roll (25) is pressed against the heated metal plate (10) thereby laminating the resin film (13) to the plate (10). A film cutter (26) may be employed directly downstream said laminating roll (5) to cut the resin film from the

take-up device (24). Furthermore, Okamura et al. disclose employing a uni-axial

orientation device (21) for stretching and orienting the film prior to laminating to the metal plate.

As to claim 3 and conveying means, Okamura et al. disclose film transfer rolls (22 and 23) upstream said laminating roll (25), pinch rolls (34 – 37) and take-up roller (24) downstream said laminating roll.

As to claim 8, Okamura et al. disclose resins usable for his invention including, modified olefin resins or blended resins (page 12, line 18 – page 13, line 5).

As to claims 10 and 11, Okamura et al. disclose uni-axially orienting said film by stretching the film after heating the film to its glass transition temperature in the orientation unit (21) and stretching from 1.5 to 6 times its original length (page 11, lines 10 – 22; Figure 2).

As to claims 13, 14 and 16 – 18, the metal plate (10) as diagrammed is straight before, during, and after laminating process with resin film.

As to claims 19 and 20, as previously noted, Okamura et al. discloses heating the metal plate (10) upstream the laminating roll (25) so as to heat the plate to a temperature T_1 to $T_1 + 150^{\circ}\text{C}$, wherein T_1 is a melting and joining temperature of the set resin film (13). Okamura et al further discloses employing modified olefin resins such as maleic acid modified polypropylene or blended resins of polyethylene terephthalate (page 12, line 18 – page 13, line 5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4, 5, 6, 9, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al. (WO 97/32715) in view of Smith et al (US 5,407,702).

In regard to claims 2, 12 and 15, Okamura et al. appear not to disclose any extra heat treatment after laminating the resin film (13) onto plate (10) only disclosing alternatively employing additional cooling means (cooling device 33). Smith et al. define a method for coating a metal strip through an extrusion process wherein after the metal strip has been coated with plastic an extra heat treatment is applied downstream (Figure 1, element 42 and Column 3, lines 27-33). Furthermore, Smith et al. disclose said heating element 42 can be a convention oven (Column 37 – 40). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the extra heat treatment of Smith et al. to the method and device of Okamura et al. to further consummate bonding of the plastic to the metal strip.

In regard to claim 4, Okamura et al. appear to be silent as to the material of the laminating roll. Smith et al. teach contact rolls having resilient surfaces, such as elastomers (Column 3, lines 18-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to use rubber coated press rolls as in Smith et al. to

~~ensure temperature-resilient surfaces on the press rolls to minimize unwanted heat~~
transfer affects from contact with the heated metal strip.

In regard to claims 5, 6 and 9, Okamura et al. disclose simultaneously coating both side of the metal plate (10) with resin films (13 and 14). However, Okamura et al. disclose said second resin film (14) is a ready-made resin film that is not formed in-situ like the set resin film (13). However, duplicating the in-situ method and means of the resin film (13) for the resin film (14) would have been an obvious alternative to one skilled in the art. Smith et al. teach duplicating the strip coating operation for simultaneously two-sided coating of the metal substrate (Figures 1 and 2), wherein both films are made in-situ by casting an extruded resin. It would have been obvious to one of ordinary skill in the art at the time of the invention to simultaneously coat both sides of the metal plate (10) of Okamura et al. by duplicating the process and means of the in-situ resin film forming employed to manufacture resin film (13) for resin film (14). as it is known to simultaneously laminate in-situ formed resin films to opposite sides of a metal strip as disclosed by Smith et al., wherein one in the art would be motivated to replace the ready-made resin film (14) with an in-situ formed set resin film so as to eliminate the conventional problems with employing ready made films (e.g. unwinding difficulties, shrinking during storage).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al. (WO 97/32715) in view of Nishida et al. (US 5,952,017).

It is known to use cooling rolls in forming plastic strips from extrusion processes as taught for by Okamura et al. However, Okamura et al. is silent as to the cooling rolls

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being internally water cooled. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the cooling roll (19) used to form the resin film (13) in Okamura be internally water cooled, since Okamura et al. teach employing a cooling roll and it is known that cooling rolls can be made cool by internal cooling water as taught for example by Nishida et al. (Column 14, lines 9 – 15).

Response to Arguments

6. Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

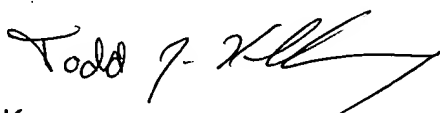
The newly applied reference to Okamura et al. discloses a method and device for resin coating a metal strip. Laminating rolls 25 and 31 are depicted as being movable from a first "open position" away from the metal plate to a second "closed position" pressing against said plate. Okamura et al. teach that the resin formed into a film is not laminated onto a metal plate until the thickness of the film becomes stable.

Conclusion

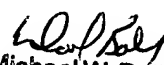
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Todd J. Kilkenny** whose telephone number is **(703) 305-6386**. The examiner can normally be reached on Mon - Fri (9 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



TJK
June 4, 2002



Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700